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ABSTRACT

A descriptive study investigated whether a common middle-level writing program exists, and what factors impact the writing program and the relationships among these factors. A random sample of 1,500 classrooms in California and Missouri stratifying on four grade span school types (K-8, 6-8, 7-8, 7-9) was chosen. A survey was developed, sent, and returned by teachers, counselors, and principals, in 915 classrooms, 743 schools in California and 172 in Missouri. Forty schools, 20 in California and 20 in Missouri, were chosen at random from the sample for follow-up observations. Results indicated that the middle grades writing program is characterized by similar components and processes implemented differently and at varying stages with different emphases; the current emphasis on teaching middle grades children how to write can be conceptualized in either of two opposing methods--group writing processes (focusing on the "process approach") and an "individualized products" approach; and the middle level writing curriculum is not taking advantage of the opportunities afforded by many programs and practices now in place within the structures of middle level organizational units. Results also indicated that four factors impacted the middle grades writing program: (1) teacher characteristics; (2) level of commitment to the middle school philosophy; (3) curricular and administrative policies; and (4) school grade span organizational type. Suggestions for improving middle level writing programs include: make the writing program interdisciplinary; use flexible scheduling; plan integrated writing activities during teaching teams' common planning time; and use more social learning activities. (Contains one table of data.) (RS)

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THE MIDDLE LEVEL WRITING PROGRAM: A DESCRIPTIVE CONCEPTUALIZATION

Presented to the
American Educational Research Association
Annual Meeting

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Atlanta, Georgia

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True ease in writing comes from art, not change,

As those move easiest who have learned to dance.

-- Alexander Pope, An Essay on Criticism

Background[1]

Writing has long been held to be a fundamental subject (one among the triumvirate of "R's") to be taught to school children. The methods teachers use to instruct students how to write vary widely, however. Ranging from copying aphorisms in first grade to constructing "five paragraph themes" and library papers in secondary schools, classroom practices constitute an instructional oxymoron -- similarly different. That is, while most teachers somehow communicate to students a version of "good" writing, make assignments, and then grade the processes and/or products, the manner in which teachers go about completing these (and other) steps involves different teacher behaviors and instructional strategies.

In my review of the research literature on middle level organization, programs, practices, and policies (Hough 1991) I found a steady increase in the number of studies conducted over the past three decades. Similarly, while research on writing theory has enjoyed a longer tradition, an escalation of writing research since the 1960's is evident. Yet, only a very few scholars have undertaken major research efforts to combine middle level philosophy with writing theory. As a result, relatively little is known about the middle level writing program.

Combining the literature on middle level education with that of writing theory produced six significant findings:

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[1]Note: Portions of this report will appear in a forthcoming edition of the NASSP Bulletin.

(1) Age/grade level studies can be grouped into five categories: early childhood/elementary (pre-kindergarten to grades five or six), middle level (grades four to nine), secondary (grades six to twelve), college, and "general" theory--regardless of grade level.

(2) Scholarly cohorts consisting of noted researchers exist at each level in number one above except at the middle level.

(3) Most all middle level writing research has been confined to dissertations that have not yet found their way to publication.

(4) These unpublished dissertations account for slightly more than 30% of the studies on writing theory.

(5) Virtually all of the middle level dissertations dealing with writing use designs to test the effects of one strategy (e.g., sentencing combining) over others (e.g.) traditional grammar, "the process," outlining, et cetera); analysis of variance is used in most studies.

(6) Findings reported in these studies are largely contradictory. That is, where one scholar found a writing strategy to be more effective than another, a different scholar found the opposite. This leads one to suspect that other factors not accounted for in the research designs are influencing student writing proficiency at the middle level. (Hough, 1991a)

Purpose of the Study

This study was undertaken to examine the relationship between middle school programs

and writing instruction. It was of interest to determine whether or not a "match" could be made between "best evidence" writing instruction and "exemplary" middle school programs / practices. If such a match could be made, what type of curriculum policy mechanism might best facilitate the most effective nexus?

In order to fashion this curriculum policy, descriptive data were collected to address two research questions: (a) Does a common middle level writing program exist, or is the amount of variance among curricular and instructional programs too great to make bone fide generalizations? If there are differences, what are they and how might they be conceptualized? (b) What factors impact the writing program, and what are the relationships among these factors?

Research Procedures

For the purposes of this study, the writing program is defined as "what is actually taking place in middle level schools," i.e., -- what is actually taught (the curriculum) and how it is presented (instruction). The population for this study was composed of all 6th, 7th, and 8th grade classrooms in California and Missouri. A random sample of 1,500 classrooms stratifying on four grade span school types (K-8, 6-8, 7-8, 7-9) was chosen. A survey was developed and mailed to teachers, counselors, and principals which produced a returned and usable response rate of 61%, representing 915 classrooms. Seven hundred and forty-three (743) of these were in California and one hundred seventy-two (172) were in Missouri.

Forty schools, twenty in California and twenty in Missouri were chosen at random from this sample for follow-up observations. English language arts, science, math, history/social

studies, art, music, and physical education classes were observed, as well as exploratories and advisories. Observations were made only during sessions in which some type of writing instruction was taking place. Documents such as lesson plans, work sheets, textbooks and student writings were also collected unobtrusively.

Statistical analyses consisted of one-way analysis of variance using the Student-Newman-Kuels post hoc multiple comparison test, factor analytic techniques, discriminant analysis, path analysis and multiple regression. Triangulation techniques and content analyses were applied to the qualitative data.

Findings

Question #1: Is there a common middle level writing program?

Yes and No. The middle grades writing program is characterized by similar components and processes implemented differently and at varying stages with different emphases. The writing program is couched almost entirely (over 92% of the time) within the framework of the English language arts curriculum. Although over 50% of the English language arts classes are considered a part of the core curriculum joined by history/social studies, science, and mathematics; the program is rarely (less than 10% of the time) integrated among these core classes. Little effort to incorporate writing with other classes is evident, and seldom (less than 6%) are co-curricular activities or exploratory classes linked to the writing program. Writing-across-the-curriculum is not a characteristic of the middle school writing program; it was listed as a feature in less than 2% of the schools.

Prewriting techniques are stressed as part of the writing "process" emphasizing rewriting

and multiple drafts. Literature and reading are also integral components of most middle level writing programs, possibly reflecting a whole language approach. While no one type of writing assignment is used exclusively, creative writing assignments and/or essay exams are more common than library/research papers or reports. Occasionally, a report about a job or avocation is assigned, in which students are asked to describe and/or react to the activities they observe trained and knowledgeable workers perform.

Individualized instruction is less common than group processes which include peer editing and read-around groups. Some type of group work and/or cooperative learning is used about 50% of the time by English language arts teachers. Most of the cooperative learning time is spent on prewriting and editing. Some group readings and/or student sharing of one another's work and collaborative writing activities take place, on average, three times a year in less than 19% of the classrooms, and 94% of these are English language arts classes.

Two Orientations -- (1) Group Writing Processes & (2) Individualized Products. In sum, the data indicate that the current emphasis on teaching middle grades children how to write can be conceptualized in either of two opposing methods. The first and most commonly used might be labeled *group writing processes*. This orientation focuses predominantly on "the writing process" (i.e., prewriting, drafting, editing, publishing). In over 65% of English language arts classrooms, teachers were instructing children in "the process" and telling students that "writing is [this] process." More than 25% of the English teachers require students to memorize and/or recall on a test "the writing process" -- which (in some cases) includes as many as twelve steps. Holistic grading is commonly used by these teachers to evaluate the students' "process progress."

Conversely, the second orientation to the teaching of writing might best be described as *individualized products*. When this orientation is used, teachers usually do little or no group work, do not teach "the process," assign research/library papers, and collect only a final copy. Letter grades are usually assigned to this final product and are based on sentence structure, form, style, content, mechanics, and usage.

Within the context or either orientation (*group processes* or *individualized products*) most middle level writing programs are literature-based. Reading and writing are viewed as complementary skills and are taught in tandem. Many writing assignments stem from a reading assignment and sometimes either professional or peer literature is used as "examples of a 'good' finished product" to be imitated by students.

With regard to the overall school environment, these two types of writing programs are implemented within a departmentalized structure, grouping students heterogeneously. Flexible scheduling as well as mini-classes and cross-age tutoring are seldom employed. Virtually no parental involvement is sought (except by happenstance--usually associated with homework), and peer tutoring is experienced by some but not many students. In addition, the middle level writing curriculum consists of either a continual allocation of instructional time or some combination of continual and separate instructional blocks of time set aside for direct instruction teaching student how to write. On average, sixty days or more (one third of the school year in the English language arts classroom) is devoted to some type of direct writing instruction.

The "typical" middle level English language arts teacher is a female between the age of 40 to 49 with a bachelor's degree and has been teaching full time for twelve to thirteen years. This teacher provides writing instruction to students in either the 6th, 7th, or 8th grade only --

seldom teaching to more than one grade level. The "typical" teacher has never attended a National Writing Project summer writing seminar, but has attended almost nine different district sponsored in-service days dealing with the teaching of writing. Most teachers feel under-prepared to teach writing at the middle grades level (30%), but most prefer to teach to this age group (52%). Teachers with elementary training feel better prepared (39%) and prefer to teach young adolescents (62%) than do teachers with secondary training (29%) and (40%), respectively.

What Factors Impact the Writing Program?

Four factors were found to impact the middle grades writing program: (1) teacher characteristics, (2) level of commitment to the middle school philosophy, (3) curricular and administrative policies, and (4) school grade span organizational type. Of these, commitment to middle school philosophy had the greatest relationship $B = .27$ ($p < .05$). The number of college writing courses and in-service (including National Writing Projects) completed by teachers yielded significant direct effects $B = .16$ and $B = .15$ ($p < .05$), respectively. Teacher age had a negative relationship, $B = .11$ ($p < .05$). Policy issues and grade span organization have a marginally enigmatic interactive relationship with one another and the other two factors.

Teachers who have taken college courses dealing specifically with the teaching of writing tend to ask their students to write more often and make a greater variety of writing assignments than do teachers who have not had this training. Teachers who have attended five or more in-service days dealing specifically with the teaching of writing tend to teach "the process" and

grade holistically.

The highest level of commitment to the middle school philosophy is found among male English language arts teachers in K-8 schools. Regardless of gender, younger or less experienced teachers were found to be more highly committed to the middle school philosophy. In cases where a high level of commitment to the middle school philosophy was evident, a proportionately higher level of commitment to the teaching of writing was found. In these classrooms, students were more apt to be taught "*group processes*" than "*individualized products*"--the latter more common in 7-9 schools and used by teachers who had been in the occupation for more than ten years.

Textbooks and curriculum guidelines, as well as state and local policies had a tremendous impacts on the development of curriculum policy; however, the curriculum coordinator had very little influence. Surprisingly, these curriculum and administrative policies showed no direct effects on the overall writing program.

The school grade span organizational structure (long a bug-a-boo) in middle school research and shibboleth was related to teacher characteristics, philosophy, and policy but not directly to the writing program. To say that the grade span makes no difference, then, is to take a short-sighted view. Upon closer scrutiny it appears that the school grade has both indirect and interactive effects on the writing curriculum. Until more sophisticated structural model equation techniques are applied to the data, however, we will not fully understand what this relationship is.

Are Middle Level Programs and Practices Augmenting Writing Instruction?

The answer to the above question which serves as this section heading is an unequivocal,

"No." The middle level writing curriculum is not taking advantage of the opportunities afforded by many programs and practices now in place within the structures of middle level organizational units. Significant differences among the school grade span types regarding the level of implementation of school writing programs and practices can be viewed as the level of commitment to writing development. Using this perspective, a general observation can be made: as school grade spans move toward the inclusion of lower grade levels, i.e., toward the elementary orientation, the level of philosophical commitment to middle school writing theory increases. At the extremes, K-8 schools have a higher level of commitment to writing than do 7-9 schools. It is interesting to note, though, that 6-8 and 7-8 schools implement more "exemplary" middle school programs and practices than K-8 or 7-9 schools. Also, 6-8 schools are implementing these programs and practices at significantly higher degrees than either K-8 or 7-9 schools.

K-8 schools have a higher level of commitment to middle school philosophy and, at the same time, employ more writing program features and at a higher level of use than do the other grade span groups. Again, as a higher grade level is included in the school structure, moving toward the secondary and/or high school orientation, both philosophical commitment and the level of implementation of various writing curriculum features decrease. If the grade span configuration is a fixed element, that is a function of necessity, not design, then it would be reasonable to assume that the level of philosophical commitment is driving the writing curriculum. If the grade span configuration is a variable element, that is a function of design, not necessity, then it would be reasonable to assume that the level of philosophical commitment is driving the grade span. Hence, a high level of middle school commitment would produce a

grade span of K-8 or 6-8 that is orientated toward the elementary program. This, in turn, would produce a more diversified, integrated writing curriculum than would be found in schools with orientations toward secondary and/or high school teaching. These assumptions are mere conjecture at this point, however, and are not yet fully substantiated by empirical research.

Recommendations

The Nexus: An Agenda for Change

When the existing research data on writing theory are combined with existing "exemplary" components operational in middle level schools and/or philosophical beliefs inherent in the middle level education movement, the following five suggestions for improving middle level writing programs would be implemented and tested for effectiveness:

(1) Teaching students how to write would be a function of each core teacher.

(2) The writing program would be interdisciplinary in nature with assignments being integrated within the total learning experience--core and co-curriculum as well as exploratories, study skills, advisory groups, et al.

(3) Flexible scheduling would allow for extended instruction in writing and team teaching.

(4) During their common planning time, teaching teams would plan an integrated writing program, develop and implement interdisciplinary thematic units which would engage students in the writing.

(5) The social learning activities experienced by middle grades students would enhance the writing program by allowing for more student-centered instruction combining the group process approach with the individualized product orientation

Policy Implications

Understanding middle level philosophy and writing theory is crucial to the development of a comprehensive middle school writing program. Teachers should be encouraged to accept the philosophical commitment to middle level programs, practices, and policies as well as basic principals of writing theory and instructional techniques.

Schools might consider nurturing both -- during in-service and summer programs such as the National Writing Project for existing faculty -- and by making this knowledge-base a priority when hiring. Curriculum coordinators, textbooks, and curriculum guidelines have limited impact; however, interdisciplinary teams of teachers tend to develop and implement more comprehensive writing programs than do individual teachers or departments.

While school grade span configurations are of limited influence and are usually a function of administrative necessity, lower grade levels added to the seventh-grade tend to be associated with "elementary" orientations (staffing, programs, etc.) and higher grade levels added to the seventh-grade tend to be associated with "secondary" orientations.

References

Hough, D. (1991a). Setting a research agenda for middle level education. *Crossroads*, 1(1), pp. 4 - 11.

Hough, D. (1991b). *An analysis of the middle level writing program.* Paper presented to the National Middle School Association 18th Annual Conference. Louisville, KY.

Hough, D. (1992). How Middle Level Teachers Train Young Adolescents to Write. Paper presented to the 76th Annual Convention of the National Association of Secondary School Principals. San Francisco, CA.

Table 1

Sample

School Grade-Span	State		
	California	Missouri	Total
K - 8	181 (24%)	37 (22%)	218 (24%)
6 - 8	194 (26%)	49 (28%)	243 (27%)
7 - 8	192 (26%)	44 (26%)	236 (26%)
7 - 9	176 (24%)	42 (24%)	218 (23%)
Totals	743 (100%)	172 (100%)	915 (100%)

Table 4.
Writing Studies by Topic and Age/Grade Level

(Cells identified with Authors' Last Names) N = 81 Studies

Writing Topic Study	Age/Grade Level				
	Early Childhood/Ele. K-5	Middle 6-8	Secondary 7-12 and 9-12	College	General Writing Theory
Grammar			Bateman & Zidonis		Hatfield
"The Process"	Graves; Dyson Donalson; Olson; Squires; Calkins	Calkins	Emig; Bridwell	Flower; Hayes; Perl; Pianko; Glasgner	Cooper & O'Dell Bridwell Murry Hillocks
Student-Centered	Applebee; Dyson		Appleby; Bridwell; Macrorie	Bartholomae Pianko; Flower; Sommers	Moffett; Murry; Trimmer & McCrimmon; Cooper; Cowley
Cognitive				Stein	Rose; Booth; Bereitner; Gardner; Vygotski
Sentence Combining		O'Hare	O'Hare; Cooper; Mellon		
Peer Teacher Response	Anderson		Braddock; Cooper; Freedman	Elbow	O'Dell; Cooper
Reading-Writing	Langer & Appleby; Chomsky; Gossard; Atwell	Atwell	Elbow; Langer; Applebee	Elbow; Haas; Flower, et al.	Blount; Booth Higgins
Social/ Symbol/ Culture	Dyson				McCormack Heath; Geertz
Developmental Stages	Hunt			Lunsford	Britton; Calkins
Language					Heath; Christiansen
Product					Applebee; Hillock Maxwell; Purves
Sentence, Paragraph, Text					Christiansen; Schriver

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Table 13. Eigenvalues & Percent of Variance -- Teacher Characteristics

Factor	Eigenvalue	Percent of Variance	Cummulative Percent
1 (Experience)	1.15683	10.5	10.5
2 (Satisfaction)	1.10482	10.0	20.5
3 (Gender)	1.68717	15.3	35.9
4 (Preparation)	.73159	6.7	42.5

Table 14. Rotated Factor Matrix -- Teacher Characteristics

Variables	Factor 1 (Experience)	Factor 2 (Satisfaction)	Factor 3 (Gender)	Factor 4 (Preparation)
Gender	.07171	.04274	**.98399***	-.15427
Age	**.69265***	-.05261	-.04132	.03125
YrsTeach	**.94479***	-.06665	-.07025	.10700
Degree	**.34768***	.04421	.12966	.01051
Courses	.06948	.08589	.02193	**.45240***
Inservice	.30820	-.02738	.01524	**.53621***
Seminar	.08804	.09386	-.08610	**.33729***
Prepare	.05786	**.98899***	-.03091	.12884
Prefer	-.04704	**.36798***	.03499	.10797
DaysWrt	-.11864	.03164	.00032	**.43429***
TimeDiv	-.01809	.06568	-.06567	.20496

*Variables with high loadings on the factor

Writing Program

A second factor analysis was performed on the twenty-six variables in Part II of the teacher surveys dealing with specific middle level writing curriculum components and instructional practices. Table 44 in Appendix E presents the correlation matrix among these variables. Tables 15 and 16 show the eigenvalues and percent of variance, and the factor loadings, respectively.

Table 15. Eigenvalues and Percent of Variance -- Writing Program

Factor	Eigenvalue	Percent of Variance	Cummulative Percent
1 (Drafting)	5.57972	21.5	21.5
2 (Literature-based)	1.16755	4.5	26.0
3 (Integrated subjects)	1.53022	5.9	31.8
4 (Process)	.72940	2.8	34.6
5 (Motivation)	.70793	2.7	37.4
6 (One-on-one)	.57844	2.2	39.6
7 (Small group work)	.42919	1.7	41.2

Table 16. Rotated Factor Matrix -- Writing Program

Variable	Factors 1	2	3	4	5	6	7
PeerEdit	**.39***	.04	.05	.33	.01	.08	.29
CrAgeTut	.11	.09	.14	.03	.211	.22	.12
CoreCurr	.07	.25	.22	.16	-.09	.12	.06
InterTeam	.03	.07	**.35***	.06	.03	.12	.16
LargGroup	.01	.11	.08	.11	.02	.14	.32
SmGroup	.20	.13	.13	.13	.12	.07	**.73***
Individual	.09	.01	.17	.10	.15	**.42***	.30
ProgmIns	.01	.09	.29	-.06	.22	.26	.05
Prewrite	.25.	.16	-.08	**.60***	.19	-.01	.11
SentComb	.12	.04	.28	.23	**.33***	.10	.14
StorySt	.02	.08	.15	.11	**.70***	.05	.08
Interest	.07	.04	.38	.09	**.47***	.27	-.05
Process	.29	.17	.07	**.62***	.01	.09	.09
Holistic	.03	.04	.14	.48	.02	.15	.16
Criterion	.05	.03	.19	.30	.13	.05	.00
NormRef	-.01	-.05	**.45***	.19	.26	.01	-.01
Interview	.06	.12	**.41***	.17	.14	.36	.05
Conference	.22	.10	.16	.21	.04	**.72***	.11
Rewrite	**.72***	.19	.01	.18	.14	.18	.09
Multiple	**.83***	.11	.12	.17	-.01	.09	.03
ReadGpts	**.37***	.24	.20	.21	.09	.06	.29
Literature	.13	**.84***	.08	.21	.07	.04	.09
Reading	.12	**.72***	.14	.03	.11	.09	.15
Essay	.16	.34	**.45***	.06	.06	.07	.08
Research	.05	.22	**.54***	-.02	.18	.14	.15
Creative	.17	.32	.30	.09	.28	.05	.14

*Variables with high loadings on the factor

Table 17. Eigenvalues and Percent of Variance -- School Programs and Practices

Factor	Eigenvalue	Percent of Variance	Cummulative Variance
1 (Personal Development)	1.54390	8.6%	8.6%
2 (Tutoring)	3.01101	16.7%	25.3%
3 (Alternative Curriculum)	.87427	4.9%	30.2%
4 (Interscholastic Sports)	.43279	2.4%	32.6%

Table 18. Rotated Factor Matrix -- School Programs and Practices

Variables	Factor 1 (Personal Develop.)	Factor 2 (Tutoring)	Factor 3 (Altern. (Curr.)	Factor 4 (Intersch. Sports)
InterdisTeams	.16945	.22718	.25628	.03000
PeerTutor	.11894	**.77411***	.10524	.07742
Cr-AgeTutor	.04072	**.61152***	.18275	.09159
CoreCurr	.26091	.20760	.22006	-.01145
FlexSched	.08072	.17534	**.48313***	.14914
HR-Gud/Coun	.26034	.05114	**.39421***	-.00272
MiniClasses	.15286	.11792	**.52004***	.04852
Departmental	.19626	-.05020	-.12054	.01131
CoopLearn	**.47611***	.23273	.15865	.09339
Adult-Child	**.46383***	.13447	.39085	.01503
Exploratory	**.45745***	-.00697	.24355	.07884
MasteryLrn	.29007	.19740	.22035	.11416
Per/Soc	**.57637***	.18217	.21620	.05334
IntramuralS	**.34094***	.11044	.08603	.31426
InterscholS	.12268	.12269	.09902	**.97931***
"Caught-Middle"	**.50277***	.10403	.12916	.04475
HetroGroup	**.41079***	.00103	.13780	.06128
ParentInvol	**.47311***	.22266	.21208	.14718

The variables State Policy, District Policy, School Policy, and School Administration all loaded on Factor 1 -- "Administrative Expectations." This factor could also be conceptualized as a policy guidance construct, as it is assumed that the function of each agency formulating policy is to help design curricula features. The variables California Assessment Program, Curriculum Guidelines, Textbooks, and Curriculum Coordinator all loaded on Factor 2 -- "Curriculum Expectations." Again, this factor could be conceptualized as curriculum policy guidance, in mush the same manner as the major factor. The variables Federal Policy and Writing Workshops did not load on either factor.

Table 19. Eigenvalues and Percent of Variance -- Factors Influencing the Writing Curriculum

Factor	Eigenvalue	Percent of Variance	Cummulative Variance
1 (Admin. Expect.)	3.37530	33.8%	33.8%
2 (Curr. Expect.)	.77489	7.7%	41.5%

Table 20. Rotated Factor Matrix -- Factors Influencing the Writing Curriculum

Variables	Factor 1 (Admin. Expect.)	Factor 2 (Curr. Expect.)
Federal Policy	.15981	.12582
State Policy	**.44039***	.16648
District Policy	**.62104***	.15698
School Policy	**.92273***	.29861
School Administration	**.68570***	.26928
CA Assessment Program	.23165	**.53988***
Curr. Guidelines	.30937	**.60924***
Textbooks	.16704	**.34550***
Curr. Coordinator	.18053	**.35781***
Writing Workshops	.07317	.28444

Table 21. Correlations Between Canonical Discriminant Functions and Writing Curriculum

Variable	Function 1 (p =.0015)	Function 2 (p =.0273)
Peer editing	**.59871***	.12157
Rewriting	**.42620***	.09535
Small group work	**.39158***	-.04239
Multiple drafts	**.37620***	.05314
Research/library papers, reports	.31688*	.06009
Core Curriculum	.29231*	.05935
Read-around groups	.24686*	.02860
Prewriting techniques	.24091*	.09598
The writing "process"	.23529*	.08007
Essay assignments	.10699*	-.04837
Creative writing assignments	.09447*	.05603
Cross-age tutoring	.06951	**.41047***
Large group work	-.03705	**.39033***
Holistic grading	.23915	**.34019***
Interviewing	-.06576	**.31355***
Interest inventories	-.00021	**.31209***
Individualized instruction	.09563	**.26120***
Criterion referenced grading	-.11437	**.23514***
Sentence combining	.11910	**.19922***
Reading	.11702	**-.17402***
Literature	-.02866	-.16510*
Story starters	.08361	.15967*
Writer-teacher conferences	-.00957	.14741*
Norm referenced grading	.03999	.14577*
Programmed instruction	-.07026	-.12006*
Interdisciplinary teams	.03987	.06648*
Explained Variance (Multiple R^2) =	16%	14%

* Denotes the function with which the variables correlate most highly. Bolded coefficients = those that meet the tolerance level to be assigned to that function.

Table 22. Group Centroids, per Discriminant Analysis
(Discriminating Among School Grade Span Organizational Types)

School Organization Type	Function 1	Function 2
K - 8	.41492	.52106
6 - 8	.44500	-.20184
7 - 8	-.44694	-.39235
7 - 9	-.41305	.55015

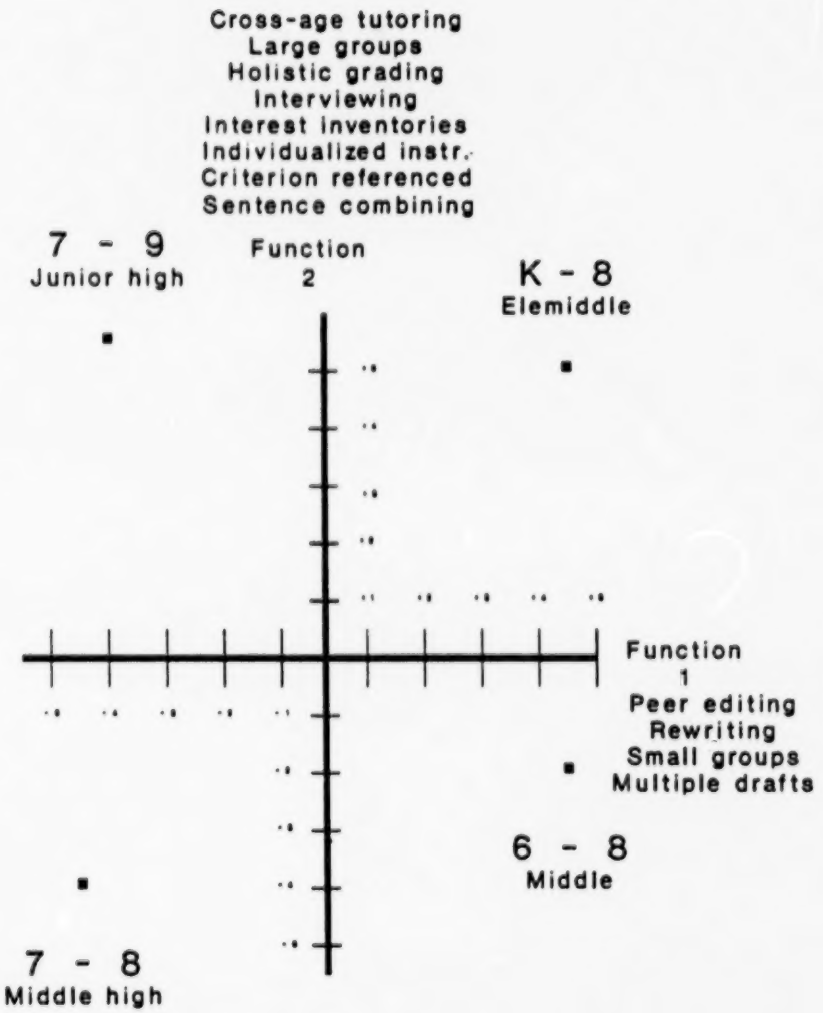

Figure 7. Writing Program Discrimination Among Four Grade Span Organizational Types

Table 23.

Group Mean Scores and (Standard Deviations) on the 26 Writing Curriculum & Instructional Variables by Grade Span

Teachers were asked how often they included the following practices in their writing program, using the following scale: Never = 0; Seldom = 1; Occasionally = 2; 50% of the time = 3; Often = 4; Always = 5.

Variable	K-8 n=57	6-8 n=125	7-8 n=138	7-9 n=105
Literature	4.1754 (.9472)	4.1680 (.9566)	4.2059 (.7805)	4.0980 (.9282)
Prewriting Techniques	4.1579 (.9218)	4.1200 (1.0519)	4.0072 (1.0358)	4.0900 (1.357)
Core Curriculum	3.8545 (1.3391)	4.0855 (1.1859)	3.7087 (1.4204)	3.7273 (1.4486)
The Writing "Process"	4.2281 (1.0180)	4.0403 (1.0850)	3.9474 (1.0753)	3.7624 (1.3126)
Reading	4.1636 (.9768)	4.0246 (1.1461)	4.0310 (1.0748)	4.0825 (1.0172)
Rewriting*	4.0877 (.9118)	3.9440 (1.0105)	3.8043 (1.0026)	3.7723 (1.1566)
Multiple* Drafts	3.8421 (1.0655)	3.6880 (1.2076)	3.5474 (1.1942)	3.5900 (1.2235)
Creative Writing	3.8246 (.9282)	3.4758 (1.1150)	3.6522 (.9253)	3.5098 (1.0785)

*Included in 1st Linear Discriminant Function
**Included in 2nd Linear Discriminant Function

Table 23. (continued)

Variable	K-8 n=57	6-8 n=125	7-8 n=138	7-9 n=105
Peer* Editing	3.4737 (1.2832)	3.4720 (1.0984)	2.9783 (1.1170)	2.9200 (1.1779)
Holistic** Grading	3.7308 (1.2064)	3.3659 (1.3445)	3.2879 (1.3733)	3.4388 (1.3166)
Small Group* Work	3.3333 (.9880)	3.2960 (1.0002)	3.0870 (1.0772)	3.0100 (1.0298)
Large Group** Work	3.2331 (1.2059)	3.2177 (1.2400)	3.1037 (1.1987)	3.2376 (1.2818)
Essay Exams	3.0179 (1.4953)	3.1371 (1.4446)	3.2391 (1.2875)	3.0490 (1.4514)
Read-around Groups	3.0702 (1.2373)	2.9758 (1.3937)	2.9478 (1.3562)	2.9505 (1.3295)
Criterion** Referenced Grading	3.0638 (1.2581)	2.7339 (1.4443)	2.8632 (1.3640)	2.9432 (1.3843)
Sentence** Combining	3.0175 (1.2173)	2.7280 (1.2338)	2.6343 (1.2173)	2.6300 (1.2525)
Library/ Research/ Papers, Reports	2.9298 (1.2372)	2.7254 (1.2053)	2.4118 (1.2500)	2.4118 (1.3302)
Individualized** Instruction	2.9464 (1.2565)	2.5840 (1.2584)	2.4706 (1.1284)	2.5714 (1.3238)

*Included in 1st Linear Discriminant Function
**Included in 2nd Linear Discriminant Function

Table 23. (continued)

Variable	K-8 n=57	6-8 n=125	7-8 n=138	7-9 n=105
Story Starters	2.7544 (1.3267)	2.5360 (1.3769)	2.6519 (1.3401)	2.5644 (1.3814)
Writer-teacher Conferences	2.6111 (1.3793)	2.2720 (1.2532)	2.1791 (1.1162)	2.2900 (1.3655)
Interest** Inventories	2.5000 (1.2701)	2.0661 (1.3212)	2.2214 (1.1786)	1.9794 (1.3691)
Interviewing**	2.1296 (1.0824)	1.9667 (1.0202)	1.8240 (.9677)	1.8557 (1.0606)
Interdisciplinary Teams	2.3023 (1.5817)	1.9912 (1.6266)	1.8425 (1.6687)	1.7083 (1.7040)
Programmed Techniques	2.0000 (1.5811)	1.6321 (1.5573)	1.7739 (1.5898)	1.7753 (1.5937)
Norm Referenced Grading	1.8333 (1.3954)	1.4949 (1.3122)	1.4787 (1.3499)	1.6154 (1.4071)
Cross-age** Tutoring	1.4561 (1.3896)	.9590 (1.3691)	.8984 (1.0783)	1.2796 (1.5973)

*Included in 1st Linear Discriminant Function
**Included in 2nd Linear Discriminant Function

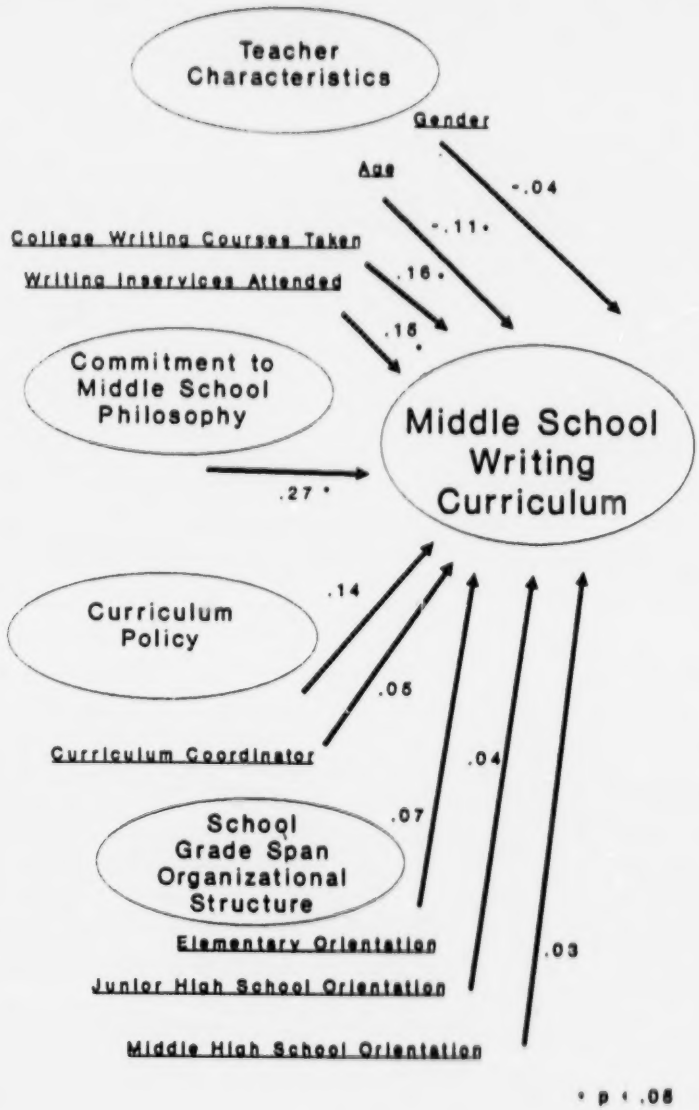

Figure 8. Direct Effects on the Writing Curriculum